US Army Corps of Engineers®

Engineer Research and Development Center

Urban Tactical Planner™ (UTP)

Technology

In 1996, the Engineer Research and Development Center, Topographic Engineering Center (ERDC-TEC) developed the Urban Tactical Planner™ (UTP), a software product created to fill the warfighter's growing need for up-to-date geospatial information describing the urban environment. UTP analyzes, maps, and displays layers of urban area information. The data set is kept as simple as possible, so that low-end PC notebook and NT platform with CD-ROM running ArcView can provide the intended services. Users can display and manipulate (both terrain and cultural) information with the Environmental Systems Research Institute, Inc.'s commercially available ArcView® software.

The program displays the urban environment as an aggregate of features that affect urban area operations, e.g., building form and function (broken out as polygons of like-building types), building height, vertical obstructions, terrain features, bridges, lines of communication, key cultural features, landmarks, etc. These features are shown as themes or layers that the user can toggle on-or-off. Attribute tables provide additional information, e.g., building data, vertical obstruction data, road and bridge data, and are linked to these layers. Users can click hot-links to view ground photos

Customized UTP view depicting overhead and embedded perspective views.

of the terrain and building types, and architectural drawings or site plans, which are displayed on top of a map or image base. Fly-throughs can be viewed through Skyline software Systems' *TerraExplorer*® 3D visualization system.

The program can show the urban area at varying degrees of detail. A user can show an overview of the area (showing relief and major routes for example), zoom into an urban view or larger scale, or zoom down to a one square kilometer view of a selected site. The product can be tailored to specific customer requirements. The data is deliverable via Intelink, Secret Internet Protocol Router Network (SIPRNET), Open Source Information System (OSIS), CD-ROM, and/or in hard copy output. Users may submit new requirements requests to the HQDA DCS G2. TEC can provide completed data sets (images, maps, GIS files, etc.) upon request directly to customers for their own analysis. A library of UTPs is available for access using Arc Internet Map Server and TerraExplorer on SIPRNET and on the Joint Worldwide Intelligence Communications System (JWICS).

UTP can exploit many data inputs such as digital terrain elevation data, commercial imagery, National Geospatial-Intelligence Agency (NGA) topographic products, and intelligence sources. Rapid response requirements are addressed by providing only mission essential data for valid Department of the Army requirements. Consequently, the UTP data set is not inclusive nor strictly an intelligence data set in the traditional sense, but is a terrain analysis data set that can be produced to operate at the unclassified level by using the appropriate data sources for that level (such as imagery, maps, and ground photos).

Problem
Adherence to the precept that urban combat operations are conducted only when required is becoming increasingly difficult as urban sprawl changes the face of the battlefield. Warfighters engaged in Military Operations on Urban Terrain require detailed spatial and temporal information to make informed decisions in planning and visualizing military operations in the world's urban areas.

Expected Cost To Implement
Specific costs to the user/agency to implement and use UTP will vary depending on user requirements and the costs of associated commercial hardware and software products. For further information, contact the listed ERDC POC.

Benefits/Savings
UTP provides the detailed spatial and temporal information needed to make informed decisions in planning and visualizing military operations in the world's urban areas. Users can apply UTP data to their specific needs. For example, an Army aviator can display only those features that affect navigation (landmarks), route choice, and landing. Ground operations planners can display urban areas likely be occupied by non-combatants, show approach routes to town, and display key terrain on their area of operation, such as a ridge surrounding the town or the town's tallest buildings.

Status
Requirements production started in FY98. A prioritized list of cities that reflect national priorities to identify urban information requirements is available through the TEC Intelink-S homepage (http://www.tec.army.smil.mil).

The product has undergone various enhancements and is continuing to evolve. Product specifications have been compiled. The newest versions will be built with Arc Geodatabases using NGA Feature Attribute Coding Catalogue structure for portability. A reprioritization or any new requirements can be submitted to the HQDA DCS G-2. Future enhancements will provide ArcMap format for those with ArcGIS and Arc-Reader format for those users without ArcGIS. The program CD will include shape-files for those customers who still use ArcView or who desire greater flexibility.

ERDC POC
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Distribution Sources
Terrain Analysis Branch, Operations Division, Topographic Engineering Center, Engineer Research and Development Center, US Army Corps of Engineers.

Available Documentation
UTP documentation in made available through the SIPRNET and JWICS homepages.

Available Training
No training is currently available for the UTP. For further information, contact the listed ERDC POC.

Available Support
No technical support is currently available for the UTP. For further information, contact the listed ERDC POC.